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**Animal and  
Plant Health  
Inspection  
Service**

# **Medfly Cooperative Eradication Program, Hillsborough County, Florida**

**Environmental Assessment,  
June 1997**

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**CAUTION:** Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife—if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.

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# **I. Purpose and Need**

## **A. Introduction**

The Mediterranean fruit fly or Medfly, *Ceratitis capitata* (Wiedemann) is a major pest of agriculture throughout many parts of the world. Because of its wide host range (over 250 species of fruits and vegetables) and its potential for damage, the Medfly represents a serious threat to U.S. agriculture. Although it has been introduced intermittently to the U.S. mainland several times since its first introduction in 1929, eradication programs have been implemented to prevent it from becoming a permanent pest on the U.S. mainland.

A permanent infestation of Medfly would be disastrous to agricultural production in Florida and the United States. Although established on the Hawaiian islands, Medfly's unchecked presence on the U.S. mainland would result in widespread destruction of crops such as apricot, avocado, grapefruit, nectarine, orange, peach, and cherry. Commercial crops as well as home production of host fruits would suffer if Medfly were allowed to remain. Fruit that has been attacked by Medfly is unfit to eat because the Medfly larvae tunnel through the fleshy part of the fruit, damaging the fruit and subjecting it to decay from bacteria and fungi.

On May 28, 1997, an adult Medfly was found in a fruit fly trap in a kumquat tree in Tampa, Florida. Subsequent to that find, additional adults and larvae were found nearby (in Tampa, Brandon, Mango, and Dover), confirming that an infestation exists. Delimitation trapping is continuing to determine the size and boundaries of the infestation. The infestation is found in home plantings and groves, and appears to be limited to Hillsborough County, although that situation may change in the future.

## **B. Purpose and Need**

The Medfly infestation detected in Hillsborough County, Florida, represents a major threat to the agriculture and environment of Florida and other U.S. mainland States. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) and the Florida Department of Agriculture and Consumer Services (FDACS) are proposing a cooperative program to eradicate the Medfly infestation and eliminate that threat.

APHIS' authority for cooperation in the program is based upon the Organic Act (7 United States Code (U.S.C.) 147a), which authorizes the Secretary of Agriculture to carry out operations to eradicate insect pests, and the Federal Plant Pest Act (7 U.S.C. 150dd), which authorizes the Secretary of Agriculture to use emergency measures to prevent the dissemination of plant pests new to or not widely distributed throughout the United States.

This environmental assessment analyzes the environmental consequences of alternatives which have been considered for Medfly control and considers, from a

site-specific perspective, environmental issues that are relevant to this particular program. Alternatives for Medfly control have been discussed and analyzed comprehensively within the “Medfly Cooperative Eradication Program Final Environmental Impact Statement—1993” (EIS), which is incorporated by reference and summarized within this environmental assessment.

## **II. Alternatives**

Alternatives considered for this proposed program include (1) no action, (2) Medfly suppression (including chemicals), (3) Medfly suppression (without chemicals), (4) Medfly eradication (including chemicals), and (5) Medfly eradication (without chemicals). APHIS’ preferred alternative for the program is Medfly eradication (including chemicals), using an integrated pest management (IPM) approach. For more detailed information on the alternatives for Medfly control and their component methods, refer to the EIS.

## **III. Environmental Impacts**

The potential environmental impacts of the program’s alternatives and component treatment methods have been discussed and analyzed in detail within the EIS and associated analyses (including the “Biological Assessment, Medfly Cooperative Eradication Program—August 1993”). In addition, potential cumulative impacts were analyzed within the EIS. Refer to the EIS and the analyses it cites for greater detail. This environmental analysis focuses on site-specific issues and conditions, especially with respect to any effects they might have on potential environmental effects. Issues of concern associated with this proposed action include (1) potential effect on human health from chemical pesticide applications, (2) potential effect on wildlife (including endangered and threatened species) from program activities and treatments, and (3) potential effect on environmental quality.

The area of the proposed program (Hillsborough County, Florida) has urban, suburban, and rural characteristics. The fly finds are in heavily populated residential areas and groves. There are a number of sensitive sites within the eradication zone. The presence of many bodies of water makes it necessary to employ buffers to avoid drift and minimize contamination of local water bodies. Hillsborough River State Park is in a scenic area on the northern edge of the county. Busch Gardens is a major amusement park and wild animal park on the east side of Tampa. At the time of the preparation of this EA, neither Hillsborough River State Park nor Busch Gardens is within the treatment zone; if the treatment zone should expand in the future, appropriate protection measures will be employed to avoid adverse impacts to these areas.

### **A. Human Health**

The principal concerns for human health are related to the program use of chemical pesticides as follows: malathion bait (especially when applied from the air), diazinon

(soil drenches), and methyl bromide (a fumigant). The following three major factors influence the risk associated with pesticide use: fate of the pesticides in the environment, their toxicity to humans, and their exposure to humans. Each of the program pesticides is known to be toxic to human beings. Exposure to program pesticides can vary, depending upon the pesticide and the use pattern, but data from the human health risk assessment prepared for the EIS indicate that exposures to pesticides from normal program operations are not likely to result in substantial adverse human health effects. Refer to the EIS and its supporting documents for more detailed information relative to human health risk.

The alternatives were compared with respect to their potential to affect human health. In general, a well-coordinated eradication program using IPM technologies would result in the least use of chemical pesticides overall and the least potential to adversely affect human health. The no action alternative, both suppression alternatives, and the Medfly eradication (no chemicals) alternative, all would be expected to result in broader and more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impact.

Consistent with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," APHIS considered the potential for disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. In general, the population of this area is diverse and lacks any special characteristics that differ from those described in the EIS. This is particularly true around Brandon where the first fly finds were made. There are, however, some areas that have minority communities within the county. In particular, there is a large Cuban-American population in the vicinity of Ybor City where there has been a fly find. Pertinent documents (environmental documents, precautions, and/or warnings) will be translated into Spanish for dissemination in these areas, and application schedules will be provided to radio stations and other media in Spanish. APHIS also recognizes that a proportion of the population may have unusual sensitivity to certain chemicals or environmental pollutants and that program treatments pose higher dangers for these individuals. Special notification procedures and precautions, as stated in the EIS's recommended mitigations, are required and serve to minimize the risk for this group.

## **B. Nontarget Species**

The principal concerns for nontarget species (including endangered and threatened species) also involve the use of program pesticides. Paralleling human health risk, the risk to nontarget species is related to the fate of the pesticides in the environment, their toxicity to the nontarget species, and their exposure to nontarget species. All of the pesticides are highly toxic to invertebrates, although the likelihood of exposure (and thus impact) varies a great deal from pesticide to pesticide and with the use pattern. Refer to the EIS and its supporting nontarget risk assessment for more information on risks to all classes of nontarget species.

APHIS has consulted with the U.S. Department of the Interior, Fish and Wildlife Service (FWS), under the provisions of section 7 of the Endangered Species Act of

1973. APHIS has prepared a biological assessment for the Medfly Cooperative Eradication Program and FWS has concurred with APHIS' no effect determination, predicated on APHIS' adherence to specific protective measures. The FDACS has contacted local offices of the FWS to consult on the presence of endangered and threatened species within the program area. Based upon FWS' original concurrence of no effect and the continuing consultation, no adverse impacts to endangered or threatened species, or their critical habitats, are foreseen.

The alternatives were compared with respect to their potential to affect nontarget species. Paralleling the findings for human health, we have determined that a well-coordinated eradication program using IPM technologies would result in the least use of chemical pesticides overall with minimal adverse impact to nontarget species. The no action alternative, both suppression alternatives, and the Medfly eradication (no chemicals) alternative, all would be expected to result in broader and more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impact.

The area was considered with respect to any special characteristics that would tend to influence the effects of program operations. Potentially sensitive areas have been identified, considered, and accommodated through special selection of control methods and use of specific mitigative measures. The area contained no special characteristics that would require a departure from the standard operating procedures and mitigative measures that were described in the EIS.

## **C. Environmental Quality**

The concerns over environmental quality include concerns for the preservation of clean air, pure water, and a pollution-free environment. Program pesticides remain the major concern of the public and the program in relation to preserving environmental quality. Although program pesticide use is limited, especially in comparison to other agricultural pesticide use, the proposed action would result in release of chemicals into the environment. The fate of those chemicals varies with respect to the environmental component (air, water, or other substrate) and its characteristics (temperature, pH, dilution, etc.). The half-life of malathion in soil or on foliage ranges from 1 to 6 days, and in water from 6 to 18 days. The half-life of diazinon in soil ranges from 1.5 to 10 weeks, and in water at neutral pH from 8 to 9 days. Methyl bromide's half-life is 3 to 7 days, but the small quantities used disperse when fumigation chambers are vented. Refer to the EIS for a more detailed consideration of the pesticides' environmental fates.

The alternatives were compared with respect to their potential to affect environmental quality. Again, a well-coordinated eradication program using IPM technologies would result in the least use of chemical pesticides overall with minimal adverse impact on environmental quality. The no action alternative, both suppression alternatives, and the Medfly eradication (no chemicals) alternative, all would be expected to result in broader and more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impact.

The proposed program area was examined to identify characteristics that would tend to influence the effects of program operations. Allowances were made for the special site-specific characteristics that would require a departure from the standard operating procedures. The approaches used to mitigate for adverse impacts to bodies of water are described in the EIS.

In conclusion, the majority of the risk in the program is associated with pesticide use. Pesticide exposure and subsequent risk to humans and nontarget species is not expected to be substantial in this program because of the localized nature of the infestation, the limited use of pesticides, the precise targeting of pesticides, and the safety procedures employed. Although minimal exposure could pose higher risk to some sensitive individuals and some nontarget organisms, pesticide exposure is generally expected to be minimal and program standard operating procedures and mitigations (especially notifications) serve to minimize that risk. Risk to environmental quality is considered minimal. No significant cumulative impacts are expected as a consequence of the proposed program or its component treatment methods.

## **IV. Listing of Agencies and Persons Consulted**

Mike Stefan  
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Program Support  
Plant Protection and Quarantine  
Animal and Plant Health Inspection Service  
U.S. Department of Agriculture  
4700 River Road, Unit 134  
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U.S. Department of Agriculture  
1015 17th Street, West  
Palmetto, FL 34221



Richard Clark  
Chief, Bureau of Plant and Apiary Inspection  
Division of Plant Industry  
State of Florida  
Department of Agriculture and Consumer Services  
1911 SW 34th Street  
P.O. Box 147100  
Gainesville, FL 32164-7100

**Finding of No Significant Impact  
for  
Medfly Cooperative Eradication Program,  
Hillsborough County, Florida,  
Environmental Assessment, June 1997**

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS) has prepared an environmental assessment (EA) that analyzes alternatives for control of the Mediterranean fruit fly (Medfly), an exotic agricultural pest that has been found in Hillsborough County, Florida. The EA, incorporated by reference in this document, is available from:

USDA, APHIS, PPQ  
Tampa Work Unit  
4951-B East Adamo Drive, Suite 220  
Tampa, FL 33605

or

USDA, APHIS, PPQ  
Program Support  
4700 River Road, Unit 134  
Riverdale, MD 20737-1236

The EA for this program analyzed alternatives of (1) no action, (2) Medfly suppression (including chemicals), (3) Medfly suppression (without chemicals), (4) Medfly eradication (including chemicals), and (5) Medfly eradication (without chemicals). Each of those alternatives was determined to have potential environmental consequences. APHIS selected Medfly eradication (including chemicals), using an integrated pest management (IPM) approach for the proposed program because of its capability to achieve eradication in a way that also reduces the magnitude of those potential environmental consequences.

APHIS has prepared a programmatic biological assessment for endangered and threatened species and is consulting locally with the U.S. Department of the Interior, Fish and Wildlife Service (FWS), with regard to the protection of endangered and threatened species or their critical habitats. APHIS will adhere to protective measures designed specifically for this program and mutually agreed upon with FWS.

I find that implementation of the proposed program will not significantly impact the quality of the human environment. I have considered and based my finding of no significant impact on the quantitative and qualitative risk assessments of the proposed pesticides and on my review of the program's operational characteristics. In addition, I find that the environmental process undertaken for this program is entirely consistent with the principles of "environmental justice," as expressed in Executive Order No. 12898. Lastly, because I have not found evidence of significant environmental impact associated with this proposed program, I further find that an environmental impact statement does not need to be prepared and that the program may proceed.

  
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Michael J. Shannon  
State Plant Health Director

6/3/97  
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Date